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09/395,894	09/14/1999	OMAR M. BUAZZA	5040-03206/E	6639

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EXAMINER

HECKENBERG JR, DONALD H

ART UNIT

PAPER NUMBER

1722

DATE MAILED: 04/03/2003

28

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/395,894

Applicant(s)

BUAZZA ET AL.

Examiner

Donald Heckenberg

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 95-106, 141-152, 154-159, 161, 163-171, 178-182 and 184-202 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 159, 161, 163-171, 178-182, 184-188 and 200-202 is/are allowed.
- 6) ☒ Claim(s) 95-101, 103-106, 141-146, 148-152, 156, 157, 189 and 190 is/are rejected.
- 7) ☒ Claim(s) 102, 147, 154-155, 158 and 191-199 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 24, 25, 25 1/2, 27. 6) ☐ Other:

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that

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was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 95-99, 103-106, 148-152, 156, and 189-190 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza et al. (U.S. Pat. No. 5,415,816; previously or record) in view of Baskerville et al. (U.S. Pat. No. 4,576,766; previously of record).

Buazza teaches a first mold member having a casting face and a non-casting face and a second mold member having a casting face and a non-casting face, the second mold member being adapted to be spaced apart from the first mold member during use such that the casting faces of the first mold member and the second mold member at least partially define a mold cavity (see figure 6). Buazza further teaches a lens forming composition adapted disposed in the molding cavity comprising a monomer that cures by exposure to activating light to form the eyeglass lens during use, a photoinitiator that initiates curing of the monomer in response to being exposed to activating light having a wavelength in a range of 300-400 nm during use (see column 14, line 64 - column 15, line 9). Buazza also teaches a first light

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generator directing light toward the first mold member and adapted to generate activating light at a wavelength in the photoinitiator wavelength range to cure the lens forming composition and a second light generator directing light toward the second mold member and generating activating light (see figure 3 and column 14, line 64 - column 15, line 9). Buazza further specifies the monomer to comprise a polyethylenic-functional monomer containing ethylenically unsaturated groups selected from acrylyl and methacrylyl (column 13, lines 22-24), or an aromatic containing bis(allyl carbonate)-functional monomer (column 2, lines 56-58). Buazza also further teaches a cooler for cooling the mold cavity, the cooler comprising a distributor to apply cold air to the mold cavity and remove heat during use (column 19, lines 51 - column 20, lines 8, and column 20, lines 48-49). Buazza further teaches the use of a filter positioned between the first light generator and at least one of the mold members for reducing the intensity of the light upon the lens forming composition (column 4, line 27 - column 5, line 28). It is noted that Buazza teaches the use of a filter made from frosted Pyrex glass (column 4, line 60), which is substantially translucent to light.

Buazza fails to teach the lens forming composition to comprise a light absorbing compound that substantially absorbs

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light. Buazza also fails to teach a controller to control light generators as such that pulsed activating light is produced.

Baskerville teaches a lens-forming composition comprising a light absorbing compound for the purpose of producing a lens which blocks UV light (column 1, lines 5-10, and column 2, lines 65-67). Baskerville further teach the use of pulsed activating light to cure the polymers in the production of a lens for the purpose of varying the intensity and the temperature of the irradiation reaching the curing composition (column 3, lines 34-38).

It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to have modified the system of Buazza as such to have the lens-forming composition further comprise a light absorbing compound because this would allow for the production of a lens which blocks UV light as suggested by Baskerville. It further would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to have modified the apparatus of Buazza as such to have controlled the light generators as such to produce pulsed activating light because this would have allowed for the varying the intensity and temperature of the irradiation which is necessary for particular curing processes as suggested by Baskerville.

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Claim 95 recites that the photoinitiator initiates curing in response to activating light have a wavelength greater than 400 nm, and that the first light generator is adopted to generate activating light at a wavelength greater than 400 nm. As noted above, Buazza teaches "[t]he lamps 40 generate... ultraviolet light having wavelengths between 300 and 400 nm... ultraviolet light having wavelengths between 300 and 400 nm is preferred because the photoinitiators according to the present invention, preferably, absorb most efficiently at this wavelength and the mold members 78, preferably, allow maximum transmission at this wavelength" (column 14, line 64 - column 15, line 9).

Accordingly, Buazza teaches that it is preferable, though not required, to operate the light in the 100 nm range between 300 to 400 nm. Claim 95 recites merely that the light is greater than 400 nm, which could include, for example, 401 nm. As such, it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention that use of the photoinitiator and light with an operating wavelength of slightly greater than 400 nm would still achieve a successful lens curing process given the disclosure of the large, nearly overlapping range of Buazza. Such a modification would have a reasonable expectation of success and not require undue experimentation to one of ordinary skill in the art in view of the teaching of

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Buazza. See In re Boesch, 617 F.2d 272, 205 USPQ 215 (Cust. & Pat. App. 1980); In re Aller, 220 F.2d 454, 105 USPQ 233 (Cust. & Pat. App. 1955) (noting that it is not inventive to discover workable ranges by routine experimentation).

5. Claims 100 and 151-152 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza modified by Baskerville as applied to claims 95-99, 103-106, 148-152, and 156 above, and further in view of Costanza (US Pat. No. 4,077,858; previously of record).

Buazza and Baskerville teach the system as described above, including the use of an initiator such as benzoin methyl ether (col. 13, ln. 53). Buazza and Baskerville fail to teach the use of a co-initiator acted upon by a first polymer chain radical, and that forms a second polymer chain radical with the monomer.

Costanza teaches ultraviolet radiation initiated polymerizations, wherein benzoin ethers are used as photoinitiators along with organic amine co-initiators for the purpose of enhancing the rate of polymerization (col. 6, lns. 26-31).

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the system of Buazza and Baskerville as such to have used an



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amine co-initiator with the photoinitiator benzoin methyl ether as suggest by Costanza because this would enhance the rate of polymerization. It is noted that such a system would inherently be as such that the photoinitiator would form a first polymer chain radical that would react with the amine co-initiator to form a first polymer chain radical, and the co-initiator would in turn react with the monomer.

6. Claims 101 and 157 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza modified by Baskerville as applied to claim 95-99, 103-106, 148-152, and 156 above, and further in view of Portney et al. (US Pat. No. 4,842,782; previously of record).

Buazza and Baskerville teach the system as described above including specifically the use of a filter positioned between the first light generator and at least one of the mold members for reducing the intensity at different points of the lens molding material (col. 4, ln. 27 - col. 5, ln. 28). Buazza et al. fail to teach the use of a "hazy" filer.

Portney teaches the use of a hazy filter in the light induced curing of lens compositions for the purpose of creating a filter with different transparencies of light at different points in the molding composition (col. 3, lns. 15-21).

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It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the system of Buazza and Baskerville as such to have used a hazy filter because this would allow for the creation of different light intensities at different portions of lens forming material which is advantageous to some curing processes as suggested by Portney.

7. Claims 141-142, and 144-145 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza modified by Baskerville as applied to claim 95-99, 103-106, 148-152, and 156 above, and further in view of Tarshiani et al. (US Pat. No. 5,422,046; previously of record).

Buazza and Baskerville teach the system as described above. Buazza and Baskerville fail to teach a temperature sensor configured to measure changes in the temperature of the lens forming composition, and a controller being configured to adjust a dose of initiating light reaching the cavity as a function of the changes in the temperature of the lens forming composition measured by the temperature sensor over a period of time during use.

Tarshiani teaches a lens forming apparatus wherein a temperature sensor is coupled with a controller for the purpose

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of adjusting the light generator according to the temperature sensed in the molding cavity (col. 6, lns. 11-16 and 21-25).

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the apparatus of Buazza and Baskerville as such to have provided the apparatus with a temperature sensor and controller as taught by Tarshiani et al. because this would allow for the adjustment of the light reaching the cavity based upon the temperature in the cavity.

It is noted that the controller of Tarshiani acts as such to turn on and off the light generator during use. Accordingly this reads upon the language of "adjusting a dose of initiating light..... over a period of time" as recited in claim 142 and "vary a duration of the light in response to the difference in temperature..... over a period of time" as recited in claim 144.

8. Claims 141-145 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza modified by Baskerville as applied to claims 95-99, 103-106, 148-152, and 156 above, and further in view of Buazza (US Pat. No. 5,928,575; previously of record). Buazza and Baskerville teach the system as described above. Buazza and Baskerville fail to teach a temperature sensor configured to measure changes in the temperature of the lens

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forming composition, and a controller being configured to adjust a dose of initiating light reaching the cavity as a function of the changes in the temperature of the lens forming composition measured by the temperature sensor over a period of time during use.

Buazza (US '575) teaches an eyeglass lens curing system which comprises a temperature sensor and a controller, with the temperature sensor measuring changes in the temperature of the lens forming composition during use, and the controller configured to adjust the dose and intensity of the light reaching the cavity in response to the difference in temperature of the lens forming composition over time (see col. 44, lns. 28-47).

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the system of Buazza and Baskerville as such to have provided the system with a temperature sensor and controller as suggested by Buazza because this would allow for the adjustment of the dose and intensity of light reaching the cavity based upon the temperature in the cavity.

9. Claims 146 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buazza modified by Baskerville and Tarshiani

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et al. as applied to claims 95-99, 103-106, 141-142, 144-145, 148, 150, and 156 above, and further in view of Coughanowr et al. (previously of record)

Buazza, Baskerville and Tarshiani teach the system as described and modified above. Buazza , Baskerville and Tarshiani fail to teach the controller working with the temperature sensor a proportional-integral-derivative (PID) controller.

The use of PID controllers is notoriously well known in the art as method of providing operating control. Coughanowr is cited as teaching basic PID control, and it's advantages over other methods of control (pgs. 120-121). As such, it would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the system of Buazza, Baskerville, and Tarshiani as such to have made the controller working with the temperature sensor a PID controller as suggest by Coughanowr because this would provide an efficient method for controlling the system.

10. Applicant's arguments with respect to claim 95 have been considered but are moot in view of the new ground(s) of rejection.

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11. Claims 102, 154-155, and 158 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. See the reasons for indicating allowable subject matter in previous Office Action (paper #9).

12. Claims 147 and 191-199 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. See the reasons for indicating allowable subject matter in the previous Office Action (paper #23).

13. Claims 159, 161, 163-171, 178-182, 184-188, 200-202 are allowed (see the reasons for indicating allowable subject matter in the previous Office Action (paper #23)).

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald Heckenberg whose telephone number is (703) 308-6371. The examiner can normally be reached on Monday through Friday from 9:30 A.M. to 6:00 P.M.

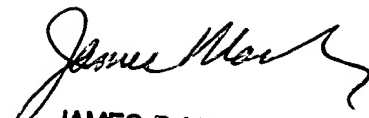
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached at (703) 308-0457. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for responses to non-final action,

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and 703-872-9311 for responses to final actions. The unofficial  
fax phone number is (703) 305-3602.



Donald Heckenberg  
April 2, 2003



JAMES P. MACKEY  
PRIMARY EXAMINER  
4/2/03